



PTO/SB/21 (08-03)

Approved for use through 08/30/2003. OMB 0651-0031

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/692,184
	Filing Date	October 23, 2003
	First Named Inventor	Steve Michael Kelly
	Art Unit	2862
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	PGS-03-19US

ENCLOSURES (Check all that apply)		
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	E. Eugene Thigpen
Signature	<i>E. Eugene Thigpen</i>
Date	March 1, 2004

CERTIFICATE OF TRANSMISSION/MAILING			
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Steve Michael Kelly

Serial No. 10/692,184

Filed: October 23, 2003

Title: METHOD FOR DOWNWARD  
EXTRAPOLATION OF PRE-  
STACK SEISMIC DATA

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Group Art Unit: 2862

Examiner: Unknown

Atty Docket No. PGS-03-19US

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*E. Eugene Thigpen*  
E. Eugene Thigpen

Date: March 1, 2004

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR § 1.97(b)

Sir:

The Applicant respectfully submits herewith an Information Disclosure Statement citing copies of references (A1, C1-C10).

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits.

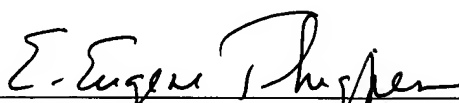
No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. § 1.16 to 1.21 be deemed



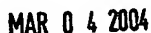
necessary for any reason the Commissioner is authorized to deduct the fees from Petroleum Geo-Services, Inc.'s Deposit Account 50-2223.

Date: March 1, 2004

Respectfully submitted

  
E. Eugene Thigpen, Reg. No. 17,400

Petroleum Geo Services, Inc.  
P.O. Box 42805  
Houston, TX 77242-2805  
Direct Dial Telephone: 281-679-2288



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Substitute for form 1449/PTO

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**Complete if Known**

Application Number	10/692,184
Filing Date	October 23, 2003
First Named Inventor	Steve Michael Kelly
Art Unit	2862
Examiner Name	
Attorney Docket Number	PGS-03-19US

Sheet	1	of	2
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[illegible][illegible]

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)	<b>Application Number</b>	10/692,184
	<b>Filing Date</b>	October 23, 2003
	<b>First Named Inventor</b>	Steve Michael Kelly
	<b>Art Unit</b>	2862
	<b>Examiner Name</b>	
Sheet 2 of 2	<b>Attorney Docket Number</b>	PGS-03-19US

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	RESHEL, M. and KOSLOFF, D., "Migration of common shot gathers", Geophysics (February 1986), pp. 324-331, Vol. 51, No. 2	
	C2	GAZDAG, J., "Wave equation migration with the phase-shift method", Geophysics (December 1978), pp. 1342-1351, Vol. 43, No. 7	
	C3	GAZDAG, J. and SGUAZZERO, P., "Migration of seismic data by phase shift plus interpolation", Geophysics (February 1984), pp. 124-131, Vol. 49, No. 2	
	C4	STOFFA, P.L., FOKKEMA, J.T., DE LUNA FREIRE, R.M., and KESSINGER, W.P., "Split-step Fourier migration", Geophysics (April 1990), pp. 410-421, Vol. 55, No. 4	
	C5	HUANG, L. and FEHLER, M., "Accuracy analysis of the split-step Fourier propagator: Implications for seismic modeling and migration", Bull. Seis. Soc. Am. (1998), pp. 18-29, 88	
	C6	LEE, M.W. and SUH, S.Y., "Optimization of one-way wave equations", Geophysics (October 1985), pp. 1634-1637, Vol. 50, No. 10	
	C7	LI, Z., "Compensating finite-difference errors in 3-D migration and modeling", Geophysics (October 1991), pp. 1650-1660, Vol 59, No. 12	
	C8	RISTOW, D. and RUHL, T., "Fourier finite-difference migration", Geophysics (December 1994), pp. 1882-1893, Vol. 59, No. 12	
	C9	SUN, J., NOTFORS, C., GRAY, S., and ZHANG, Y., "3D pre-stack common shot depth migration: A structural adaptive implementation", SEG Int'l Expo. and Annual Meeting, Sept. 2001	
	C10	OBER, C., GJERTSEN, R., WOMBLE, D., "Seismic Imaging on the Intel Paragon", US Dept of Energy Contract DE-AC04-94AL85000, (July 1999) Sandia National Lab, Albuquerque, NM	

<b>Examiner Signature</b>		<b>Date Considered</b>	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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